WASHINGTON STATE DEPARTMENT OF Natural Resources

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FPA #:	
Region:	

Western Washington

Forest Practices Application

Overstocked Stand Template for Small Forest Landowners

This form must be submitted with a Forest Practice Application. Please refer to Board Manual Section 21, Template 1, or consult your regional small forest landowner forester for assistance with completing this form.

Western Washington Overstocked Stand Template Qualification:

A qualifying stand must:

- be at least 70% conifer,
- have a closed or closing canopy,
- have a minimum of 300 trees per acre at the time of stand initiation, and
- be located within Type S, F,or Np riparian management zone (RMZ) adjacent to water.

A landowner must include a county response along with this template if the RMZ is within the Shorelines Management Act jurisdiction.

Landowner must include a Washington Department of Fish and Wildlife response along with this template if there is a wood placement exemption.

1. Implementation Schedule: List all years pertaining to season of activity per example given.

[ ] Spring [ ] Summer [ ] Fall [ ] Winter	*Example:* [2007, 2008] Spring [2008] Summer [ ] Fall [2006] Winter

2. Prescriptions

Requirements

- Thin from below. Post-thinning average tree diameter must be equal to or greater than pre-thinning average tree diameter
- Residual stand must have a minimum of 100 well-distributed conifer trees per acre
- If residual stand is less than 180 trees per acre, complete: Section 3. Woody Debris Placement
- A 30 foot equipment limitation zone (ELZ) is required from outer edge of bankfull width or channel migration zone
- On slopes less than or equal to 35%, one end of log must be suspended during ground-based yarding within the ELZ
- On slopes greater than 35%, full suspension yarding is required in the inner zone
- Standard forest practices rules apply in the other zone

The core zone is a no harvest zone. The width of the core zone will vary depending on the site and is measured horizontally from the outer edge of bankfull width or the channel migration zone (CMZ) using the following criteria:

1) A distance equal to ½ the average crown diameter of at least the 10 dominant conifer trees closest to the edge of the bankfull width or CMZ. For compliance and monitoring purposes, the trees used to determine the average crown diameter cannot be harvested. Each tree must be marked.
2) A minimum of 14 feet and a maximum of 30 feet from bankfull width or CMZ.

Core Zone Width _____ ft.

Riparian zone length: Type S Water _____ ft. Type F Water _____ft. Type Np Water _____ ft.

Thinning: A minimum of 100 trees per acre must be retained following thinning. If thinning results in less than180 trees per acre, see **Section 3. Woody Debris Placement**.

[ ] First entry objective TPA _____

[ ] Second or more entries objective TPA _____

3. Woody Debris Placement - *Fill out if using the woody debris placement strategy*

[ ] Attach activity map indicating where woody debris will be placed

If WDFW has exempted a landowner from the woody debris placement requirement, a response from WDFW must be included with this template.

If thinning will result in a residual stand density of less than 180 trees per acre, the following woody debris placement strategies must be applied:

1) The woody debris source can be from anywhere except:
   - the first row of living trees adjacent to BFW or the CMZ,
   - trees providing bank stability, and
   - trees attributed to the standard down log rules in the Forest Practices Rules.
2) The length of the logs to be placed in the stream should be at least 2 times the BFW, and have a minimum 4" diameter on the small end.

Permits

Placing woody debris in a stream requires a Hydraulic Project Approval (HPA) from the Washington State Department of Fish and Wildlife (WDFW).
The following information is required for issuing the HPA:

[ ] Placing 4 pieces of large woody debris per 300 feet of stream, or.
[ ] Will place more than minimum requirement.

Estimated number of access points through "no harvest zone" for in-stream placement _____.
Total number of woody debris pieces _____.
Average small end diameter of wood debris pieces _____ inches.
Placement Strategy: [ ] distributed [ ] grouped [ ] floodplain [ ] combination
Placement Method: [ ] directional falling [ ] shovel [ ] cable [ ] yarder [ ] hand placement
[ ] other

Stream Characteristics:

Gradient: [ ] < 2% [ ] 2-4% [ ] > 4%
Bankfull width: [ ] < 10 feet [ ] 10-20 feet [ ] > 20 feet
Bankfull depth: _____ ft.

4. Riparian Function

The following information explains the potential effects of thinning on riparian function.

The purpose of thinning an overstocked conifer stand is to reduce crowding and nutrient competition. Once thinned, the growth of the remaining trees will accelerate and more quickly achieve the minimum basal area and desired future condition targets for riparian forests required by the state forest practices rules. Although the basal area of the overstocked stand may be temporarily taken below the state rule requirements, the objective is to improve riparian habitat over the long-term.

Bank Stability: Retaining trees within the no-cut core zone provides the root mass necessary to stabilize a stream bank. Although roots can extend beyond the drip-line of a tree's crown, the bulk of the root mass is contained within this area. In areas of undercut banks, or active erosion, a larger setback may be required.

Woody Debris: Periodic large woody debris input is vital to properly functioning riparian and aquatic systems. Thinning near a stream reduces the potential source of woody debris. If no management occurred the debis that would recruit to the stream are those adjacent to the bank. If a stream is deficient in woody debris and thinning is proposed in the adjacent riparian area, woody debris can be artificially placed in the stream as a stop-gap until natural recruitment processes begin. This is a greater benefit than waiting for random recruitment. Larger diameter trees will be available to potentially recruit to the stream sooner than would be available from an unmanaged stand.

Leaf Litter / Nutrients: Reducing the canopy density of a conifer stand in a riparian area may result in a short-term loss of litter-fall to the stream. Needles and leaf litter are an essential component of the nutrient cycle of a stream and serve as food sources for insects and fish. When overstocked stands are thinned according to the aforementioned prescriptions, the canopy should recover within 5-8 years as crowns develop and main trunk epicormic branching occurs. A thinned stand may also result in increased growth and diversity of understory vegetation, further improving nutrient cycling in the riparian area and duff development on the forest floor.

Sediment Filtering: Thinning on overstocked stand may result in 1-2 years of exposed, un-vegetated soil. Depending on the slope of the site, there may be risk of overland runoff due to decreased canopy interception of rainfall. Management practices such as equipment limitation zones, retention of stream-adjacent trees, leaving ground vegetation undisturbed, and distribution of slash in the core zone can minimize sediment delivery risk until groundcover is reestablished.

Shade: A thinned stand may increase sunlight penetration to the stream. When overstocked stands are thinned according to the aforementioned prescriptions, the canopy should approach pre-treatment conditions within 5-8 years as crown develops and main trunk epicormic branching occurs. Trees retained within the core zone will continue to provide shade.

Other Riparian Features: Microclimate features such as ambient air temperature may be impacted depending on the extent of upland management. Thinned stands may result in temporary soil temperature increases that can affect groundwater and instream water temperatures. However, as understory vegetation fills in and as the canopy of the residual stand recovers, temperature fluctuations will be reduced, resulting in a low likelihood of impact to groundwater or instream temperatures. Additionally, wildlife diversity and abundance is likely to improve as the understory develops and slash is utilized as habitat.

Forest Practice Rules: The overstocked stand template is intended to replace the following standard forest practice rules: (1) Western Washington riparian management zones (core and inner) for Type S and F waters, WAC 222-30-021 (1)(a),(1)(b) and (2) Western Washington protection for Np and Ns water, (2)(a), (2)(b)(i),(2)(b)(vii). During the first thinning entry the shade requirements to maintain water temperature, WAC 222-30-040 (2) and (4).